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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,826	03/16/2001	Larry D. Smith	5181-71501	5952
7590 11/28/2003				
B. Noel Kivlin Conley, Rose & Tayon, P.C. P.O. Box 398 Austin, TX 78767-0398			EXAMINER DINH, TUAN T	
			ART UNIT 2827	PAPER NUMBER

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/809,826	SMITH ET AL.	
	Examiner	Art Unit	
	Tuan T Dinh	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,11-15 and 17 is/are pending in the application.
 4a) Of the above claim(s) 12 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,11,13,15 and 17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The formal drawings submitted on November 03, 2003 are accepted.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-9, 11, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feilchenfeld et al. (U. S. Patent 5,798,563, hereafter fed) in view of Smith et al. (U. S. Patent 5,694,297).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

As to claims 1, 4, 13, 15, 17, Fed discloses a system for delivering power to an integrated circuit as shown in figures 1-2 comprising:

an integrated circuit (42, column 2, line 42);

a printed circuit board (substrate-46, column 2, lines 28-32) including at least one signal layer (pad on board, not shown) for conveying signals to the integrated circuit, **wherein the PCB is not configured for providing core power to the IC** (note: figure 1 shows the PCB does not directly electrical contact to the IC, the figure 1 shows only the IC electrically connect to a chip carrier 10); and

a power laminate (10, column 1, line 58) is arranged between the IC and the PCB (see figure 1) for providing core power to the IC, wherein the power laminate includes a plurality of plane pairs, wherein each of the plurality of plane pairs includes a power plane (18, column 1, line 63) and a reference plane (20, column 1, line 65), wherein the power laminate is separate from the PCB;

Fed discloses all of the limitations of the claimed invention, except for the power laminate includes a switching voltage regulator circuit and a plurality of decoupling capacitors mounted on the power laminate.

Smith shows a system as shown in figures 2-3 comprising a power laminate (108, column 5, line 6) having a switching voltage regulator circuit (116, column 5, line 14) and a plurality of decoupling capacitors (122) mounted on the power laminate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a power laminate having a voltage regulator and decoupling capacitors as taught by Smith employed in the system of Fed in order to provide a DC-DC power voltage supply operates on an IC chip mounted on the power laminate and provide a minimize affect of parasitic inductance in IC chip.

As to claim 5, Fed discloses the system as shown in figures 1-2 wherein the power laminate (10) including an aperture (26, column 2, line 3) for allowing signal to pass from The PCB to the IC.

As to claims 6-9, Fed discloses the system as shown in figures 1-2 wherein the power laminate made of dielectric material (14, 16, column 1, lines 60-62), having ball grid arrays (44, 48, column 2, lines 25-29).

As to claim 11, Fed discloses the system as shown in figures 1-2 wherein each of the plurality of plane pairs is in an electrically parallel (see figure 1) configuration with respect to each of the other plane pairs of the plurality of plane pairs.

Response to Arguments

3. Applicant's arguments filed 11/03/03 have been fully considered but they are not persuasive.

Applicant argues:

Neither Feilchenfeld (Fed) nor Smith teach or suggest "a power laminate for providing core power to the IC" and "the PCB is not configured for providing core power to the IC."

Examiner disagrees.

First, "for providing core power to the IC" is a functional language and not positive claim. Second, Feilchenfeld disclose a chip carrier (10) in figures 1-2, which is a multiplayer substrate (22, 14, 16, 24) having power layers (18, 20) laminated together. The chip carrier layer is suitable core power to the IC (chip 42) when the IC is mounted on the chip carrier (10). Third, the PCB or substrate (46) is not directly electrical connect to the IC, the figure 1 only shows the chip carrier (10), which is an interposer between the IC and the PCB. Thus, the PCB is not configured providing core power to the IC.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0658.

Tuan Dinh
November 25, 2003.

David A. Zarnke
David A. Zarnke
Primary Examiner
11/26/3